THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by William Hunting, F.R.C.V.S.

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Vaccination against Distemper.

We publish this week two communications on the subject from, respectively, Mr. Sewell and Mr. Gray. We offer no comment on either, as the writers know a great deal more of the matter in dispute than we do. One thing is certain—that preventive vaccination is still in the experimental stage, and that until more work is done we may reserve our opinions.

The dog is a domestic animal, but not one that directly concerns the Board of Agriculture, so we cannot expect Mr. Hanbury to appoint a committee of medical men to investigate canine distemper. In fact we prefer that the President of the Board should not treat this disease of dogs as he has some diseases of sheep and pigs—by delegating research, at the expense of the State, to medical men who, with one exception, have so far disclosed no special knowledge or aptitude for the work. Professor Hamilton we all know, and we shall all be pleased to welcome any advance he may make in the pathology of braxy. Professor Rose Bradford we believe teaches materia medica to medical students, and we shall all be surprised if he does anything to elucidate swine fever. As to the young gentlemen who is assisting Professor Bradford, we are ignorant even of his name and often wonder how the Board of Agriculture discovered him.

But to return to distemper; there is here a field worth some investigation. The disease causes an annual money loss which we should be afraid to estimate. Money alone does not represent the loss of dog life. "The friend of man" is not valued in coin, and few are the veterinarians who could not tell of the plaintive request from owners to spare no trouble or expense to save the life of a favourite. Without going so far as to say that shooting and hunting are the firmest bonds of social country life, we may safely affirm that sport occupies as much time and gives rise to as much enjoyment as any other function of life in the country.

Prevention of the loss of dogs due to distemper is, then, a matter of great importance, and one which ought to attract sympathy from a large circle. The most promising preventive is likely to be found in the discovery of a vaccine, and three or four are now before the profession.

Mr. Sewell suggests that we might "arrange a small commission of veterinary surgeons to investigate the action of Dr. Phisalix's anti-distemper vaccine," and that a fund might be started to cover the expense of such an enquiry. We should be very willing to give any assistance to such a step and to subscribe equally with Mr. Sewell. To carry out the idea properly would probably cost £100, and if Mr. Gray's suggestion—that Hunt and Dog Societies might help—could be brought into practical effect, truth would be elicited, and probably some success attained.

PELVIC FRACTURES.

By E. Wallis Hoare, F.R.C.V.S.

A valuable four year old gelding was being "lunged" and while jumping a small bank he slipped back and on rising was very lame on the near hind leg. While being walked to the nearest stable, a short distance, he went down on the road and was unable to rise again.

On my attendance I found that he was unable to bear any weight on the hind limbs, which spread out from the body when he made attempts to rise. Rectal examination revealed a fracture of the body of the pubis on the near side, displacement had occurred and the sharp ends of the bone could be felt distinctly.

Further examination showed that more than one fracture had occurred. The animal was forthwith destroyed and the autopsy revealed the following: A comminuted fracture of the pubis, extending to the acetabulum, the symphysis was also fractured. There was great injury to the surrounding structures.

Remarks.—A point worthy of consideration is how apparently slight an accident could have produced such serious injuries.

A cob mare while working under a provision van bolted and started kicking violently, after some trouble she was unharnessed and found to be very lame on the off hind leg. The symptoms I observed on attendance were marked abduction of the limb when made to walk, and a slight degree of flattening of the posterior portion of the quarter, there was also quivering of the muscles in the region. Examination *per vaginam* revealed a fracture of the shaft of the ischium. The owner would not consent to treatment and had the animal destroyed. No autopsy could be obtained.

CASE OF FIBRO-SARCOMA.

An aged grey mare suffered for a long period from a tumour situated between the *tuber ischii* and the root of the tail, this gradually increased until it attained a large size and pressed the anus towards the left side, partly occluding it from view. The tumour felt firm and was evidently deep seated, with a base of considerable size. Operation was decided on. The patient was a most difficult one to get under the influence of chloroform, and even when a full amount had been administered she struggled violently at times. I made an incision around the base of the tumour so as to allow sufficient healthy skin to cover the wound. I next endeavour to dissect the growth

from the neighbouring parts but soon found that I had undertaken rather a gigantic task, as there was profuse hæmorrhage, which was arrested with difficulty. The base extended under the root of the tail and was attached to the sacrum, it was also firmly adherent to the rectum, and in spite of all precautions the intestine was wounded and a rent made in its walls. After a long and tedious dissection the base was found to extend too far inwards to remove it completely, I now tried to sever it with the ecraseur, but broke two instruments in the attempt. The pressure, however, had lessened the bulk, and I now removed it with the scalpel.

While suturing the wall of the rectum the animal suddenly collapsed, the heart and respiration ceasing simultaneously. This was a matter for surprise as a short time previous to this she had struggled and did not show any signs of approaching danger. The tumour weighed six pounds, and I forwarded it to Prof. Mettam who kindly examined it and pronounced it to be a fibro-sarcoma.

IBID.

HÆMOGLOBINURIA ?

On the morning of Nov. 25th, 1902, was called to see a valuable Hackney stallion, the message being that the horse was being exercised as usual when he suddenly went dead lame in the off hind leg and was sweating considerably. When I arrived the horse was standing in a loose box, sweating profusely, and the off hind leg only just touching the ground. Temperature was normal, pulse accelerated and rather weak, respirations hurried, the horse kept pawing the ground with his fore legs and seemed to be in a lot of pain. When moved the horse was very lame on the off hind leg.

After making a careful examination I came to the conclusion that it was a case of hæmaglobinuria, but the history was not the usual one of hæmaglobinuria as the animal had been having regular exercise and not much corn—at no period could I detect the peculiar condition of the muscles, and only one limb was affected. Treatment consisted of a physic ball, fomentations and liniment to the affected quarter, gentle exercise, and the horse was to be kept standing. The symptoms continued through the day, but as the fomentations and liniment seemed to punish the horse, I had them stopped and the quarter and leg well rubbed with the hand.

Next day there was a slight improvement, but the horse was still very lame though not in such pain, and the sweating had ceased. The horse staled through the night, but unfortunately they could not see the colour of the urine. During the day the physic commenced to act, and from now the horse made an uninterrupted recovery, except that on the 27th, when brought out for exercise, there was marked abduction, during movement, of the near fore leg. This, however, disappeared when the horse was exercised. December 2nd, horse was well and as sound as ever.

A. W.

DR. COPEMAN'S VACCINE AND MR. SEWELL'S EXPERIMENTS.

By HENRY GRAY, M.R.C.V.S., Kensington.

About Dr. Copeman's vaccine I know nothing beyond the fact that it is prepared from a different microbe to that of Dr. Phisalix. In *The Veterinary Record* p. 171, Sept. 27th, 1902, I made a few remarks on their dissimilarity and stated thus:

"I. The *Millias-Copeman organism* differs from that of Lignières and Phisalix by several characters:

(*a*) It is larger and grows in chains.

(*b*) It has a tendency to liquefy gelatine.

(*c*) It grows slightly on potato, forming a pale buff culture.

(*d*) Copeman has not been able to isolate this organism from the blood in the heart or organs of dogs affected with the experimental or natural disease, but it is easily found, in some cases almost in a state of pure culture, in the nasal, tracheal and pulmonary mucus.

"II. *Lignières and Phisalix' organism* or *Pasteurella canis*:

(*a*) Is a very small cocco-bacillus which does not form chains.

(*b*) It does not liquefy gelatine.

(*c*) It does not grow on potato.

(*d*) It has not been isolated from the nasal, tracheal, or pulmonary mucus, but is found in the blood in the heart or organs during the early stage of distemper, whether induced naturally or experimentally.

(*e*) It causes the various clinical forms of distemper, such as meningo-encephalitis, chorea, pustules, blue and ulcerative keratitis, gastro-enteritis, pneumonic lesions, and at will, according to the dose, the acute, subacute or chronic disease, the latter after about three weeks' incubation."

"It appears from this that the organism of Copeman is not that of Phisalix; that both cannot be the actual cause of dis- temper unless there are two different microbes capable of inducing the disease."

By this latter sentence I meant to infer that there was a probability that Dr. Copeman was at work with a different disease to that of distemper, and since reading Mr. Sewell's report I have come to the conclusion that they have confounded canine contagious broncho-pneumonia with canine distemper complicated with broncho-pneumonia, an entirely different matter. Under the heading of distemper there are many different complaints jumbled together and this is disastrous when one comes to experiment with preventives or immunising agents so as to test their exact value, although of not so much importance when it is a question of treating the dog actually suffering disease. Mistakes have been made with many other diseases in animals as well as man until the natural history of them had been scientifically studied and their difference had been pointed out. For instance, paratyphoid and typhoid fever were confounded; typhoid with typhus, septic sore-throat with diphtheria, chicken-pox with small-pox, Asiatic

cholera with sporadic cholera, contagious pleuro-pneumonia of oxen with contagious broncho-pneumonia (cornstalk disease) of oxen, equine influenza with lung complications with equine contagious pneumonia, malarial fever of animals with anthrax, etc. In this direction comes the clinician with scientific knowledge; by the two combined he is able to differentiate two diseases having similar appearances but totally different in their cause. The lung complications of distemper are generally caused by a micro-organism that exist in the mouth and nostrils of the healthy dog when it is exposed to a chill during the distemper infection, but it is common for the distempered dog to contract the contagious broncho-pneumonia when exposed to the infection or placed in a spot where a dog with this latter complaint has been.

It seems strange to me that Mr. Sewell by using Dr. Copeman's vaccine on *Case V.* was able to induce a double pneumonia within 24 hours after inoculating a healthy dog. Mr. Sewell says the dog's temperature was 103 at the time of inoculation, but in another place states that the normal temperature of a dog is 101·5 F. How can he reconcile these two statements? It would appear from the evidence he has placed before us that the dog was already the subject of pneumonia at the time of inoculation. There are many other discrepancies in the experiments that require to be answered, but this seems to me to be a question for the competent pathological bacteriologist.

Other questions may be asked: Where were Dr. Copeman's experiments carried out? Were they carried out in the same stables and under similar conditions to those of mine? Is Mr. Sewell certain that he allowed a dog suffering from broncho-pneumonic complications of distemper to come in contact with Dr. Copeman's dogs instead of a case of contagious broncho pneumonia? If so, this may account for the varying results of the different observers.

It may also be possible that Mr. Sewell contaminated my dogs with a dog suffering from coccobacillary or streptococcic pneumonia instead of a case of distemper. All the cases had broncho-pneumonia, and a post-mortem on two proved that they had broncho-pneumonia, which kind Mr. Sewell does not say. But as I have said elsewhere I do not seriously attribute my failure to immunise his dogs to this fact but to a failure to produce a characteristic reaction, due possibly to over attenuation of Dr. Phisalix' vaccine.

As this is not only a scientific but also a practical question it might be well if the Canine and Hunt Societies subscribed towards a fund to defray the expenses of the ablest pathologist obtainable to investigate this matter. In this country alone the canine wealth can be counted by millions. Dog owners have contributed little or nothing as yet for the investigation of canine diseases. It has been left to private individuals to do what has been done. If such a committee as I have indicated above were formed and supported by liberal funds I am certain that not only would dogs as well as their owners be benefited in the future, but also medicine, whether human or veterinary.

PHISALIX ANTI-DISTEMPER VACCINE.

I have read Mr. Henry Gray's communication in last week's issue of *The Veterinary Record*. He writes quite as an injured person. I can well understand his feeling somewhat vexed, after all he has said and written about Phisalix's vaccine, that the experiments recently conducted, and in which he assisted, did not coincide with his oft expressed opinions on the subject. Mr. Gray certainly did his best to successfully vaccinate the puppies which I placed at his disposal and now he writes that none reacted! That is not my fault but the fault of the vaccine I take it. Altogether Mr. Gray did twenty inoculations and says none reacted. I did 29 inoculations earlier in the year (but I am not supposed to have carried out the testing properly) and I say none of those reacted—that makes 49 inoculations. It would be interesting to know how many inoculations one is supposed to do to get *one* reaction. This sort of thing may be all very well for veterinary surgeons, especially if one charges a fee for each inoculation, but if the veterinary surgeon can only charge one fee, and had to keep on vaccinating until there is a reaction he would be considerably out of pocket in the end. I can state most emphatically that none of the seven puppies which Mr. Gray inoculated for me showed the faintest symptoms of distemper until they came in contact with a dog suffering with that disease later. The big black puppy (Case No. 1) did cough a few times when he was running about in an excited manner but he was otherwise perfectly well. Surely Mr. Gray would not have us believe that because a puppy coughs he must have distemper. Then he mentions that the black pug (control dog) was running from the eyes—this I also admit—but it was a clear watery discharge and not purulent, and Mr. Gray knows as well as I do that this dog's head was covered with eczema which also affected the eyelids, and every one knows that dogs in this condition do run at the eyes. There was no possible opportunity of the dog becoming contaminated with distemper at my place.

As to the stable where I hired a loose box for the puppies it was not next door at all, but three doors off; neither was it painted green, but stained, grained, and varnished; this is only a detail, but it shows that Mr. Gray's facts are not always *real facts*.

Then Mr. Gray says there were six fox terrier puppies, this is also a mistake, there were never more than five, and two black and tan terriers, and the black pug, and none disappeared until they died of distemper—I am in a position to prove this conclusively.

It is quite true that the three little fox terrier puppies were removed from the loose-box to my stable, because the big puppies were always bullying them, but for no other reason, and when they were older and stronger they were taken back to the loose-box.

I did say in my last communication to *The Veterinary Record* that some of the puppies had swellings, and I now add they were pointed out to me by Mr. Gray, though I admit it was sometimes difficult to

recognise them, but Mr. Gray said they were there and did his best to demonstrate their presence, and a note was made in the book accordingly.

As to the swelling or reaction which should appear after vaccination it would be interesting to know when it is really supposed to make its appearance. On March 29th Mr. Gray, writing in *The Veterinary Record*, states: "I nearly always but not invariably obtained the characteristic reaction at the seat of inoculation inside the thigh within three or four days." Last week he writes "When a dog reacts the swelling commences about 18 or 24 days after the inoculation, and goes on increasing for four or five days." Again, Mr. Gray when speaking on Mr. Hobday's paper at the meeting of the National Veterinary Association, is reported to have said that he vaccinated four puppies on the evening of the 7th November, and that the next day the puppies commenced to react and by the 16th the swelling had nearly disappeared. Now here are three different versions by Mr. Gray as to how Phisalix's vaccine acts. Which is the correct one?

I have no faith whatever in dogs having *real* distemper twice. I have been so convinced of this for years that in the winter when I am not showing my valuable bull dog, for which I gave over one hundred pounds, I for convenience sake keep him in my distemper hospital, and he has never had a second attack. If dogs may have distemper as often as they come in contact with it then what is the use of vaccinating at all?

The loose-box in which the puppies were put had not had a dog suffering from distemper in it for over a year, so that it was absolutely impossible for them to have contracted anything of that kind there. As Mr. Gray does not seem to know, I tell him that the distemper microbe will not live and thrive in a kennel where there are no dogs, and that it is perfectly safe to put a puppy in a kennel where there has been a distemper case if it simply be left empty and ventilated for a month. His advice to take a place in the country for distemper experiments where there never has been distemper is superfluous.

In conclusion I would respectfully suggest to the Editor of *The Veterinary Record* that he arrange a small commission of veterinary surgeons to investigate the action of Dr. Phisalix's anti-distemper vaccine, and if this can be conveniently carried out I would also suggest that a fund be started for collecting a small sum to enable the commission to carry out these experiments in a satisfactory manner. If this is done I for one will gladly subscribe ten guineas.

A. J. Sewell.

GLANDERS and MALLEIN in CAPE COLONY.

The following System will be adopted for getting rid of Glanders from regiments and units.

(*a*) Every nose bag to bear the number of the horse.

(*b*) Double the ordinary interval between horses to be allowed on the picket line. This means extra line gear.

(*c*) Daily inspection of every horse and mule, and minute nose inspection of one quarter of the regiment daily. the nostrils being illuminated with a mirror.

(*d*) The isolation of suspects into two groups; 1. "Gravely suspected" to be at once malleined; 2. "Suspicious" to be at once malleined. The groups not to be mixed, in case those in 2 prove free and in the interval are infected from 1.

(*e*) Watering arrangements are most important. If running water, the suspects to be watered down stream or after all the healthy have finished. If watered from troughs, all suspects to be watered from buckets, each bearing the number of the horse.

(*f*) Finally, at the end of a month, the above regulations having been strictly complied with in the interval, the whole regiment to be malleined.

(*g*) The result is freedom from glanders.

Testing Animals with Mallein.

1. The work must not be unduly hurried, or serious error will arise.

2. The animals will be done in batches of 100.

3. No temperatures are required.

4. Go entirely by the size of the local reaction. Anything over three-and-a-half inches in diameter may require to be malleined afresh.

5. In all cases of doubt give the animal the benefit, and repeat the inoculation on the opposite side. The fresh inoculation may be made at once; there is no necessity to wait.

6. If a swelling is doubtfully large at fifteen hours wait another fifteen before condemning. If glandered it will get larger.

7 The tenderness of a doubtful swelling is very valuable. It is always very tender if the animal is affected.

Instructions for Antiseptic Malleining.

(1) Clip the part closely and thoroughly, wash with soap, and finally with bi-chloride solution.

(2) Do not use a needle without washing and immersing it in a 5 % solution of carbolic acid between each injection.

The object is to prevent infection from horse to horse; also to avoid the risk of septic infection, which might easily be mistaken for a mallein reaction.

ABSTRACTS FROM FOREIGN JOURNALS.

The Development of the Treatment of Milk Fever in the Last Five Years.—By Schmidt, of Kolding, Veterinary Surgeon.

(Continued from p. 330)

It is of some use to investigate those cases which on diagnosis present features similar to those exhibited in parturient apoplexy, because it is of great importance to ascertain whether they should be treated as such. In the five years since the general adoption of the treatment of the udder we have often seen a typical course of this kind with a quick recovery of the patient which in earlier days we frequently saw end fatally. It might be accepted that the recovery was brought about by the general effect of the iodine.

In order as far as possible to be clear on this point I have treated two patients with undoubted pronounced symptoms of milk fever by the pumping in of air exclusively.

The one patient was taken ill 5½ weeks after parturition. She lay stretched out on her side, was very comatose; lifted her head up high and let it fall back with a bang; temperature 36·8 C., heart beats imperceptible, excrement in the rectum dry and compressed. Half an hour after the pumping in of air the cow could raise her head naturally, and three hours after she got up.

The other patient was affected a month before calving and was dry, and she had been milked several times in the previous four days before the onset of the illness. She had been grazing on damp meadow land and the udder was somewhat tense. She was attacked with a more excitable form of the illness but paralysed and she got up 2½ hours after treatment.

In the communication of Gobiassen there is a report of two patients in which the illness declared itself three weeks and four months respectively after calving. These patients were treated by pumping in air and the one got up in four hours and the other in half an hour after treatment.

On the proportion of milk secretion it is to be hoped that the last word has not been said, and it is justly to be expected that a better knowledge of this condition will give us a better understanding of the causes of the periodic changes in the composition of the milk upon which the authenticated cases of the illness appear to be dependent.

One knows that light and darkness, temperature and food changes, have an influence on the composition of the blood and milk and also on the function of the cells of the udder. One knows also that the glutinosity or viscosity of milk is visibly changed by pasteurisation, milk does not stick to the glass afterwards. This begins to occur at 30 C, and it is most evident at from 65 to 80 C. And a similar condition as in a glass occurs in the udder. By cooling the milk down to under the normal temperature the viscosity will increase and a thick layer of milk will first of all deposit itself on the walls of the alveoli. One also knows that colostrum corpuscles move to and fro in greater or less amount during the lactation period.

After more recent examination it has been accepted that the colostrum corpuscles are one-kernelled leucocytes having amœboid activity and incorporating fat drops within themselves. If their effect is the same as that of leucocytes generally it is improbable that their occurrence in great number may be considered a factor in the chain of causes producing milk fever; it is indeed more probable that they exercise a cleansing and purifying effect in the udder. During the onset of the illness in the colostrum period, and especially in its first stages, it may be assumed that these colostrum corpuscles exist in a smaller amount than in a healthy cow at the same period.

Since the most frequent cases of the illness occur during the colostrum period, and indeed the stretched condition of the udder at the commencement of the illness would point to a contrary condition, it would be of special interest and perhaps also of practical importance if an examination and contrast was made between the proportion of colostral milk in a great number of healthy and sick animals, as well as during the colostrum period in later cases of the illness, and especially also whether one or other proportion occurs after a rapid or intense cooling of the udder. Perhaps in this way a better understanding of the causes occasioning the illness would be arrived at.—Ex. *Berliner Thierärzt Woch.*

G. M.

(To be continued)

VETERINARY CONFERENCE IN NEW ZEALAND.

What is probably the largest Conference of Veterinary Surgeons ever held in the Southern Hemisphere took place on August 27th and 28th last at Wellington, New Zealand, under the Presidency of the Chief of the Veterinary Division of the Department of Agriculture, Mr. J. A. Gilruth, M.R.C.V.S. There were twenty-one members of the Royal College of Veterinary Surgeons present, also two other gentlemen holding Colonial degrees. The subjects discussed being Departmental matters connected with the Inspection under the Slaughtering and Inspection Act, the Stock Act, the Dairy Act, Hereditary Unsoundness in Horses and the general work of the Division, all of which gave rise to interesting discussions, and several valuable resolutions were passed.

After the Conference had broken up Mr. C. J. Reakes, M.R.C.V.S., Assistant Chief Veterinarian, presented Mr. Gilruth with a handsome gold watch, stating that a unanimous desire had been expressed by the members of the profession resident in the Colony to convey to him in some practical manner their appreciation of the scientific value of his services to the Colony, and to the profession, and that this presentation it was desired should be regarded not as emanating from the veterinary officers of a Government Department, but solely as from the members of the profession in New Zealand.

In reply Mr. Gilruth said he was bound to say in the first place, that it was quite out of order for the members of a Department to make a presentation to their Chief on such an occasion. He could not fail, however, to appreciate the good feeling which had prompted them to make him so handsome a gift, which he should always prize. He desired to thank them all for the assistance they had rendered him in the carrying out of the work of the Department, of the investigations in which they had been engaged, and their cordial support on all occasions. He thanked them for their loyalty to himself, and trusted the good feeling which had existed among them would always continue.

In addition to being the Chief of the Veterinary Division of the Department of Agriculture, Mr. Gilruth is Pathologist and Bacteriologist to the Department of Public Health, and to the New Zealand Branch of the British Medical Association. He was appointed Plague Commissioner during the outbreak of bubonic plague in New Zealand two years ago, and his work is very highly valued by the medical as well as the veterinary profession, his opinion being in constant request in pathological and bacteriological matters.

Stud farms are, it is reported, to be set up in the principal centres of agriculture, the first will be at Rustenburg. 2000 mares are to be brought into the establishments, taken mostly from the remount depôt at Germiston. The best brood mares have been selected that are available, and these include English, Irish, Australian, and the best that are of Boer strain.—*African Review.*

VICTORIA VETERINARY BENEVOLENT FUND.

Sir,

May I again ask you to aid the above fund by announcing in your next issue the additional donations as per enclosed list. The profession will learn with satisfaction that by the aid of my Council and numerous friends I have received no less than £525 4s. 7d. under the head of special appeal. I have now the most pleasing duty of all to perform, namely, to write to the generous donor announcing my success and inviting him to forward me the £100 so kindly offered. I am precluded from mentioning his name, but I feel I ought to say that he has been most patient, and has in order to help me varied his earlier proposals more than once at my earnest request; excepting for this I could not possibly have obtained the money. My Council instruct me to thank those who have so generously subscribed this large sum, and more especially still the gentleman whom I am about to address. I feel I should like personally to thank those who have helped me so much, not only by themselves subscribing but by inducing others to do so. It is gratifying to perceive that, after all, our little differences are mere ripples upon an otherwise undisturbed surface, subsiding when, owing to the call of distress and poverty, united action is necessary for the relief of those of our members who, from ill health and misfortune, find themselves unable to continue the fierce struggle in which we are all engaged.

W. FREEMAN BARRETT, *Hon. Sec.*

96 Tressillian Road, Brockley, S.E.
Dec. 3rd, 1902.

SPECIAL APPEAL FUND.

	£	s.	d.
Amount already announced	471	14	7
Martin, J. B., Esq., Rochester	5	0	0
Sutton, C., Esq., Aldershot	1	1	0
Dyer, H., Esq., Croydon	1	1	0
Bull, W. A., Esq., Banbury		10	0
Edwards, W. T., Esq., Neath	1	1	0
Regan, H. T. Esq., Church Crookham		10	6
National Vet. Asso., (per Prof. Woodruffe, R.V.C.)	5	0	6
Nunn, Vet. Col, A.V.D., 66 Victoria St., S.W.	2	2	0
Thompson, Vet.-Col., Director-General A.V.D., War Office	2	0	0
M'Fadyean, Professor, Royal Vet. College, (2nd don.)	5	0	0
Pauer, W., Esq., Blackwater	3	3	0
Scottish Veterinary Medical Society (per J. Aitken, Esq.)	2	2	0
Trigger, R. C., Esq., Newcastle	5	0	0
Midland Counties V.M.S., (per H. J. Dawes, Esq.)	10	10	0
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Brooke, W. H., Esq., Handsworth 10 6			
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	—9	9	0
Total:	£525	4	7

ON THE NATURAL HISTORY AND PATHOLOGY OF PNEUMONIA.

By the late J. W. WASHBOURN, C.M.G., M.D., F.R.C.P.

Delivered at the Royal College of Physicians, London, on November 11th, 1902.

By W. HALE WHITE, M.D., F.R.C.P., and edited by J. W. H. EYRE, M.D., ETC.

[ABSTRACT].

[Dr. HALE WHITE said that the lectures he was about to deliver had been prepared by the late Dr. J. W. Washbourn, who was the Croonian Lecturer appointed for the year 1902. Before his death he had written the lectures in rough, and the task of revising and arranging them had been very kindly undertaken by Dr. J. W. H. Eyre.]

Pneumonia is a general term implying simply "inflammation of the lung tissue;" and as such includes all inflammatory processes occurring in the lungs, no matter how widely these may differ in their clinical phenomena or in their pathology. These remarks, however, relate chiefly to that form of pneumonia known as acute lobar pneumonia. Lobar pneumonia is defined as an acute infective disease, characterized anatomically by an inflammation of the lung tissue, resulting in the accumulation of fibrinous exudation, leucocytes, etc., within the alveoli, and clinically by a definite and fairly constant set of physical phenomena, directly consequent upon the anatomical changes. Anatomical lesions and clinical symptoms are alike the direct result of the invasion of the lung tissue and the multiplication therein of a specific micro organism—the diplococcus pneumoniæ—and it is first necessary to direct attention to a consideration of the life-history and biology of this bacterial factor which plays so important a part in the causation of acute lobar pneumonia.

HISTORICAL.

The micro-organism which is the cause of acute lobar pneumonia goes under a number of different names—the pneumococcus, diplococcus pneumoniæ, and the microbe septicémique de la salive; the best name appears to be the streptococcus lanceolatus. It was first discovered (1880) by Sternberg, who obtained it by inoculating rabbits with saliva from a healthy individual; shortly after Pasteur found the same micro organism in saliva from cases of rabies and broncho pneumonia. Then followed a number of observations by Eberth, Koch, Friedlaender, Leyden, and Gunther, who found capsulated diplococci in the lungs from cases of lobar pneumonia. Further observations were made by Mattray, Ziehl, Griffin, and Cambray. In 1883 Friedlaender stated that he had cultivated the pneumococcus on gelatine; but there is now no doubt that the organism which he cultivated was not the same as the one which occurred in the lungs in pneumonia, although it resembled it in possessing a capsule. Talamon in 1884, Fraenkel in 1885, and Weichselbaum in 1886, in a series of observations, were successful in isolating the pneumococcus from the lungs of cases of pneumonia, in testing its pathogenic effects upon animals, and in definitely establishing its causal relation to the disease.

MORPHOLOGY.

The morphology of the streptococcus lanceolatus varies with the conditions under which it is placed. The most common form is that of the diplococcus, in which it is met with in the exudation and in the blood of infected animals. Slightly curved chains consisting of three or four cocci are sometimes found in cultivations; long convoluted chains of forty or fifty cocci also occur, especially when cultivated in the blood serum of

immunised animals. The cocci are rarely aggregated together in small bunches like staphylococci, or in pairs and tetrads like gonococci as occurs in the saprophytic variety described by Eyre and myself. The individual cocci are often lanceolate in exudations and in the blood of infected animals: in cultivations they are frequently oval or pointed at the ends in apposition, and in the peritoneal exudation of infected animals the cocci are elongated and resemble bacilli. Frequently the cocci are surrounded by a definite capsule, which may contain two or more cocci; the capsule is well marked in the blood of infected animals and in exudations, but it may be absent; in cultivations it is rarely present. The capsule has been supposed by some to be of a protective nature, defending the cocci against injurious influences.

Forms.

In old cultivations and in old exudation various changes in the form of the pneumococcus can be observed. In some cases it does not stain evenly, or at all, with any of the ordinary reagents. Sometimes spherical bodies, larger or smaller than normal pneumococci, pear shaped bodies, and varicose ovals which stain only feebly and then at the centre, are met with. In old exudation minute irregular particles which stain very deeply and occasionally exhibit metachromatism, are found; also capsules containing one or more small particles. When undergoing destruction by leucocytes, Pane describes the cocci as being converted into small metachromatic granules. The coccus stains with all the ordinary methods, and by Gram. The capsule can be seen by staining in weak carbolic methylene blue and mounting in water, or by staining by MacConkey's capsule stain, which consists of dahlia, methyl green, and basic fuchsin.

The pleomorphism of the pneumococcus is of importance, as it shows that the microscopical examination may fail to recognise it, and in consequence it may exist under conditions when it is not suspected.

Conditions of Growth.

The optimum temperature for growth is 37·5° C., and the range is usually from 25° to 42° C.; some virulent varieties will grow at 18° C. It grows best when freely supplied with oxygen, but will grow in the absence of this gas.

The reaction of the medium is of importance. As a rule the pneumococcus will not grow upon a medium reacting acid to litmus, and it has been found by Eyre that different strains of pneumococci require a different "optimum reaction." It is exceedingly susceptible to variations in the composition of the medium upon which it is cultivated. If due care is taken in the manufacture it will grow upon most of the laboratory media, and best upon agar over the surface of which rabbit's blood has been spread. Upon this medium it retains its virulence and vitality for a long period, as was proved by Eyre and myself in a set of experiments.

Avirulent varieties are not so sensitive, and will grow well upon any medium, whether acid or alkaline, and at the ordinary temperature of the air.

Vitality.

On artificial media the pneumococcus dies quickly; as a rule on broth or agar it remains living for at most a week, but on blood agar, as I have shown, it may remain living for as long as fifty days. An interesting fact is the difference in vitality of individual cocci; sometimes, in cultivations of which the majority of cocci have died, a few remain living and can be successfully transplanted to other media. On one occasion I found that a cubic centimetre of a broth cultivation twenty-three days old, when injected into the peritoneal cavity of a rabbit caused death from pneumococcus septicæmia; and on another an agar cultivation was living sixty-four days after it had been planted. Emmerich found that in broth cultivations a few living cocci remained even after two months. He demonstrated their presence by making cultivations in large quantities of broth; some time later, when the cocci had sunk to the bottom of the flask as a precipitate, he transplanted large quantities of the precipitate to fresh media and obtained a growth, showing that among the dead cocci a few living ones remained. Eyre and I confirmed these experiments, and found further that the cocci remaining alive were avirulent and had changed in character. Sirena and Alessi found that when dried on silk threads he pneumococcus remained living from 31 to 192 days when kept in the dark, but died in 3 to 17 days in direct sunlight. In pneumonia sputum the pneumococcus is highly virulent. Bordini Uffreduzzi found dried pneumonic sputum virulent after 55 days when exposed to diffuse sunlight, and after 12 days when exposed to direct sunlight.

Spolverini kept pneumococci in sputum living as long as 140 days, and found them under these conditions very resistant to decomposition, drying, and cold.

The pneumococcus is easily killed by physical and chemical agencies. It is destroyed when moist by a temperature of 52° C. acting for ten minutes, and by a 1 per cent. solution of carbolic acid or a 1 in 20,000 solution of perchloride of mercury acting for two hours.

The Appearance of Cultivations.

The character of the cultivations upon solid media resembles those of the streptococcus pyogenes longus. On the surface of agar the colonies are minute and semi-transparent, and do not coalesce, and in broth a fine uniform turbidity is produced.

The growth on blood-agar is characteristic, inasmuch as the hæmoglobin is converted into a canary-coloured pigment, which later becomes of a chocolate hue and diffuses into the agar. This pigment appears to be the same as the pigment found in rusty sputum. In broth the growth rapidly reaches a maximum: Eyre and I found that in broth the growth reached its maximum in twenty-four hours.

The rate of growth depends upon the character of the medium. In rabbit's serum we found the growth reached its maximum in twelve hours, and Eyre has found that when cultivated in different samples of broth, each possessing a different reaction, the maximum of growth is reached at different periods.

Chemical Products.

The pneumococcus produces an acid which appears to be lactic acid. It also produces a milk-curdling ferment, although some varieties produce no clotting in milk. It does not produce gas or indol.

Toxins.

The pnemococcus is like the streptococcus pyogenes longus in producing practically no soluble toxin, differing in this respect from the diptheria and tetanus bacilli. Filtered broth cultivations are only slightly toxic; I have frequently injected as much as 20 c.cm. into rabbits without causing death. Auld states that he found that filtered cultivations in doses corresponding to 1 per cent. of the body weight (for example, 30 c.cm. dose administered to a rabbit weighing 3,000 grams) were sometimes fatal to rabbits.

Pane states that broth cultivations, kept until the cocci are dead, are only slightly more toxic than ordinary broth—for example, when broth was fatal in doses corresponding to 4 per cent. body weight, the cultivation was fatal in 2 per cent. Cultivations sterilized in various ways are only slightly toxic. Issaef found that cultivations made in rabbit's serum and sterilized by chloroform were toxic in doses of 2.5 per cent. of the body weight,

and that the blood from an infected rabbit treated with glycerine, made alkaline, and filtered, was sometimes fatal to rabbits in doses of 1 per cent. body weight.

Eyre and I found that the growth scraped from fifteen agar tubes, made into an emulsion with water and sterilised by exposure for ninety minutes to a temperature of 56° C., produced no effect upon a small rabbit. The brothers Klemperer were able to obtain a toxin from the bodies of pneumococci by precipitation with alcohol. The amount obtained from a quarter of a litre of cultivation killed a small rabbit, but a similar amount failed with a second.

It is evident from the above that the pneumococcus does not produce much in the way of toxins, or, if it does, that this toxin is very unstable and is destroyed readily.

Pathogenic Effects upon Animals.

Rabbits and mice are highly susceptible; guinea-pigs, sheep, dogs, cats, and rats are slightly susceptible, while pigeons and fowls are absolutely immune. The human being appears to be among the slightly susceptible animals. The brothers Klemperer found that 0·2 c.cm. of a broth cultivation (sufficient to cause death in a rabbit) only produced local redness and pyrexia when introduced under the skin of patients who were thus treated with the object of curing cancer. On the other hand, I know of an instance where the injection of two doses, each 1 c.cm. of a broth cultivation, into an abdominal tumour set up a fatal peritonitis.

Eyre and I made a series observations upon the resistance of different animals, using a pneumococcus of high virulence. We found that 0.000001 of a small loop of our cultivation was fatal to rabbits and mice, the same quantity being fatal to both; in the former animal the same quantity was fatal, whether introduced into the peritoneal cavity or into the subcutaneous tissue, but after subcutaneous inoculation, the animal died at a later period. Guinea-pigs varied considerably in susceptibility: sometimes the whole of a virulent cultivation was not fatal, and at other times 1/1 of a loop was fatal.

We found that fowls and pigeons were absolutely insusceptible: on many occasions we introduced 20 to 30 cubic centimetres of a virulent broth cultivation into the peritoneum of the fowl, also the contents of five blood-agar tubes, without producing any ill effects. We believe that this is due to the high temperature of birds, the temperature of a fowl varying between about 41° and 43° C.

Pathogenic Effects upon Rabbits.

If a highly virulent cultivation is introduced into a rabbit the animal dies rapidly of a general septicæmia; the period which elapses between the inoculation and death depends upon the quantity introduced and the virulence of the pneumococcus, and to a lesser extent upon the mode of infection. For example, a virulent cultivation introduced in sufficient quantity into the peritoneal cavity causes death within twelve to sixteen hours, while the same quantity when placed under the skin takes twenty-four to seventy-two hours to cause death. On post mortem examination there are usually signs of acute septicæmia; the spleen is either normal in size and consistency, or it may be enlarged; in the latter case it may be very hard or distinctly soft. On examining the blood it is found to be crowded with capsulated diplococci.

Invasion of the Tissues by the Cocci.

The temperature begins to rise immediately after inoculation, and reaches a maximum of about 41° C in about five hours; it remains at the maximum for about two or three hours, and then quickly falls. For two or three hours before death it is subnormal. I examined the blood in a number of cases, both during life and at various periods after killing the animal. At the end of a few hours a few cocci can be found in the general circulation, and the number increases as the temperature rises, but it is only when the temperature begins to fall that any large number are found. During the last two or three hours of life, when the temperature is subnormal, the blood becomes crowded with cocci. The respirations increase in rapidity with the temperature, and when the latter is at its maximum they begin to be laboured; as the temperature falls the dyspnœa becomes more marked, the head moving with each respiration; the animal refuses food, but does not suffer any pain. It becomes quite quiet, and crouches up in a corner of the cage; death is often preceded by convulsions.

Pane states that after subcutaneous inoculation with pneumococci causing death in four or five days the cocci can be found in the blood in twelve to eighteen hours. Goldscheider and Mueller injected pneumococci into the circulation; in one minute and three-quarters they were found in the endothelium of the lungs, as well as in the leucocytes; this was associated with hypoleucocytosis in the large vessels, and hyperleucocytosis in the capillaries.

If the inoculation is made with a less virulent cultivation the animal takes longer to die; if it takes as long as seven or eight days the infiltration at the site of inoculation when examined microscopically is usually found to be undergoing fibrous change. The blood then contains only a few cocci. In such cases metatastic lesions are not infrequently found, although they may be present even in cases dying early. In two cases I observed pneumonia, both cases occurring after intraperitoneal inoculation, which was followed by death in two days; in one case the whole of the upper lobe of one lung was solid, and there were several patches of lobular pneumonia in the lower lobe; the pleura was covered with thick fibrin. In the other case there was a patch of lobular pneumonia and pleurisy. Pleurisy without pneumonia was observed in three cases; in one of these the animal lived for eleven days after subcutaneous inoculation, and there was thick lymph on the peritoneum, as well as on both pleuræ.

Fraenkel especially mentions pneumonia occurring after injection with attenuated cultivations. These cases are interesting as showing that pneumonia may arise from infection from the blood, and not necessarily by inhalation. If the cultivations are still more attenuated death results at a still later period, perhaps at the end of three or four weeks.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

An ordinary general meeting was held at 10 Red Lion Square, London, on Friday, November 28th, when there were present: Mr. J. Sutcliffe Hurndall (President) in the chair; Prof. W. Pritchard, and Messrs. Jas. F. Simpson, Maidenhead; G. E. King, Abingdon; James East and T. W. Lepper, Aylesbury; A. L. Butters, London; Jas. P. S. Walker, Oxford, hon. treas.; Henry G. Simpson, Windsor; R. Porch, London; W. L. Harrison, London, members; P. W. Dayer Smith and J. H. Hulseberg, visitors, and Mr. Percy Simpson, Maidenhead, hon. sec.

The A.V.D. and the War Office.

The minutes of the July meeting at Maidenhead having been confirmed and signed, and apologies for inability to attend the meeting announced from Messrs. Albert Wheatley, F. W. Wragg, J. H. Wilson, and W. G. Flanagan,

The Hon. Sec. said he had received letters contain-

ing similar resolutions to those passed at the last meeting of this Association in support of the action of the Council of the Royal College with regard to the representation to the War Office respecting the professional status of officers serving in the A.V.D., from the Southern Counties, the South Durham and North Yorkshire, the Yorkshire, the Eastern Counties, and the Midland Counties Veterinary Medical Associations. Mr. Simpson read a copy of the letter addressed by the Yorkshire V.M.A. to Mr. St. John Brodrick, and the letter of the Eastern Counties V.M.A. enclosing a resolution urging the importance of at once securing the return to Parliament of a member of the veterinary profession who would be able to expose the grievances under which the profession now suffer.

The PRESIDENT said as arising out of the correspondence with regard to the Army Veterinary Department he had the permission of Mr. James Simpson to say that a War Office Committee had been appointed to enquire into the grievances and the general working of the Army Veterinary Department, to which Committee the President of the Royal College and Mr. James Simpson had been appointed to represent the profession generally; that a meeting of the Committee had been held that day; and that, so far as he understood, sufficient progress had not yet been made to make a report. They would hear in due course.

Mr. J. F. SIMPSON said that was so. Until the enquiry was closed any evidence given or decision arrived at was to be kept private—but he was very hopeful.

The PRESIDENT added that the Association might congratulate themselves that they were among the earlier Associations to take action in that matter. He hoped some benefit would accrue from it. (Hear, hear.)

ACCOUNTS.

Mr. WALKER, the Hon. Treas., submitted his annual financial statement, from which it appeared that the receipts for 1902 amounted to £52 16s. 3d., made up of a balance brought forward of £31 16s. 3d., and members' subscriptions £21. The expenses amounted to £22 17s. 10d. (including ten guineas voted at the last meeting to the Benevolent Funds) and there was thus a balance remaining in the bank of £29 18s. 5d.

ELECTION OF OFFICERS.

Mr. J. F. SIMPSON had very much pleasure in proposing that Mr. James East, of Aylesbury, a very old member of that Association, be elected its President for the coming year. Mr. East had been a loyal member of that Association for many years, and the time had now arrived for them to mark their appreciation of his good services and loyalty to the Association. (App.)

Mr. BUTTERS, in seconding Mr. East's nomination, said he had been a very regnlar attendant at meetings, and would, he was sure, occupy the position of President with satisfaction to the members and to himself. (Hear, hear.)

The nomination was cordially supported by Professor Pritchard, and unanimously carried by acclamation.

Mr. JAMES EAST, replying for the unexpected honour conferred on him, said it would be his great pleasure and privilege to do what he could to maintain the honour and dignity of the position they had placed him in; and he sincerely hoped that at the end of his term of office they would have no reason to regret the confidence they had so kindly reposed in him that day. (App.)

Messrs. E. P. Owen, of Thame, H. C. Jagger, of Bicester, Walter Western, of Bracknell, and the outgoing President, were unanimously elected as vice-presidents of the Association in the order named.

The PRESIDENT, in moving the re-election of Mr. J. P. S. Walker as Hon. Treasurer, said they could not do better than stick to the old ship that had carried them safely so many years.

Mr. KING seconded, and Mr. J. F. Simpson heartily supported the proposition, which was carried with acclaim; and Mr. Walker returned thanks.

The PRESIDENT said he took the liberty of proposing that Mr. Percy Simpson be asked to resume for another year the duties of Hon. Secretary, which he had so well discharged during the past twelve months, under circumstances of exceptional difficulty.

This was seconded by Mr. King, and also passed amid applause.

Mr. PERCY SIMPSON, in accepting office, said he would endeavour to do his best for another year.

NEW MEMBERS.

The following gentlemen, having been nominated at the previous meeting, were unanimously elected members of the Association, viz.: Messrs. J. COLEMAN, M.R.C.V.S., of Swindon; W. L. HARRISON, F.R.C.V.S., of London; R. PORCH, F.R.C.V.S., of London; H. G. SIMPSON F.R.C.V.S., of Windsor; and E. L. STROUD, F.R.C.V.S., of London; and Messrs. PERCY SMITH and J. H. HULSEBERG were nominated for election at the next meeting.

The PRESIDENT (Mr. Hurndall) presented the following report.

CONFERENCE OF VETERINARY INSPECTORS AT THE CONGRESS OF THE SANITARY INSTITUTE HELD IN MANCHESTER, SEPTEMBER, 1902.

In tendering a condensed report of the proceedings of this Conference to the Royal Counties Veterinary Medical Association I have to express my deep regret at the unavoidable absence of my colleague, Mr. Percy Simpson, who, by reason of unexpected circumstances over which he had no control, was compelled to deny me the pleasure of his company and valuable assistance as my co-delegate on this occasion. I feel that not only was I personally a great loser by his enforced abstention, but this Association also has been deprived of his valuable assistance in the preparation of this report.

The Conference was held in the History Theatre of Owen's College, Manchester, and was presided over in a most able manner by Mr. W. A. Taylor, F.R.C.V.S., of that city, a gentleman who by natural qualifications is well fitted for the assumption of such a responsible and influential position.

Mr. Taylor opened the Congress with an eminently practical address on "The *rôle* of the Veterinarian in Relation to Public Health," in which he referred to the fact that the public appreciation of the veterinary profession as a power in the work of sanitary science in this country was of recent recognition; he then addressed himself to the consideration of the various spheres in which the veterinarian is indispensable, drawing special attention to those diseases which are transmissible from animals to man, to diseases which are common to animals and man, to diseases which are conveyed from animals to man through the products of the animal such as milk, and to disease capable of transmission to man by reason of the presence of parasites on the flesh of animals consumed by man.

Mr. Taylor then insisted upon the need for proper inspection of cowsheds, dairies, and slaughterhouses by trained experts, and this class of work he affirmed could not be so satisfactorily performed by any person as by a trained veterinary surgeon, whose services he considered were a protection to the public, and the most economical. Mr. Taylor referred to the more recent advances in modern science as applied to the preparation of therapeutic agents, affirmed his strong belief in the importance of the study of general pathology, and concluded by expressing a strong conviction that the State should enforce co-operation between the medical and veterinary officers of the Government.

Mr. Taylor then introduced Mr. T. Eaton Jones, Veterinary Superintendent and Chief Veterinary Inspector for the City of Liverpool, who read a paper on "The Veterinary Supervision of Animals and its Relation to Public Health," in which he submitted that any department which had to deal with the diseases of animals should be under the control of trained experts and that expert advice should be guaranteed where investigation into outbreaks of disease among animals was necessitated as a protection to the health of the public.

A discussion followed in which Mr. J. B. Wolstenholme made some pertinent observations upon certain practices which were rife in Manchester and elsewhere for the disposal of diseased meat, drawing special attention to the danger to the public health in places where abattoirs existed in close proximity to unwholesome rivers; Dr. Hime, of Bradford, Mr. Lloyd, Sheffield; Messrs. Munro, Laithwood, McKinna, Brittlebank, Woodruffe and Hunting also spoke, after which the essayist briefly replied.

At the conclusion of this Mr. Alfred Holburn, Chief Veterinary Inspector to the Manchester Corporation, read a paper on "Meat Inspection and the Sanitary Control of Some Human and Animal Diseases." The essayist argued that meat inspection should be carried out on principles based upon fixed rules, the exactness of which has been scientifically demonstrated. He first dealt with the objects of meat inspection, the chief of which is to protect human health from the dangers attendant on the consumption of meat which he explained were pathogenic bacteria, poisonous substances generated by bacteria, and animal parasites, part of whose existence was spent in the human body. As accessory objects of inspection he indicated the protection of the public from fraud and the suppression of diseases capable of transmission from one animal to another. The essayist then referred in detail to the diseases which came under these categories, such as anthrax, glanders, rabies, tuberculosis, actinomycosis, foot-and-mouth disease, and septicæmia Dealing more fully with tuberculosis he raised the question which Koch presented to the British Congress on Tuberculosis, and stated that Koch's views had been frustrated by experiments conducted by Prof. Delépine, of Owens College.

Towards the end of the paper Mr. Holburn quoted the slaughter house as a potent factor in spreading disease and indicated that a fuller control was necessitated over these places. Messrs. King, Lawson, Giblin, Lloyd, Wolstenholme and Dr. Hime took part in the discussion, after which the essayist replied to the criticisms.

A third Paper was then read by Mr. Hunting on "Two Diseases of Man Due Solely to Animal Contagion" (Rabies and Glanders).

Mr. Hunting was understood to remark at the opening of his paper that he might have included a third disease (anthrax) in the list. He commenced by questioning the reliability of the statistics which give five as the number of persons who die annually of glanders, and supplemented these figures with his own calculation which was, he said, nearer fifty than five. In dealing with rabies he eulogised the effort to stamp out the disease by notification, compulsory slaughter, seizing and muzzling; and as the Registrar General's figures as to the persons who died from being bitten by so called rabid dogs he did not question their authenticity.

Mr. Hunting's views upon glanders and its stamping out are so well known to every one in this Association that I need not do more than state that as far as I could glean they were the same as those frequently propounded by this gentleman on many previous occasions. One notable fact in connection with Mr. Hunting's essay was observable, that though hardly anyone seemed disposed to discuss it among his English *confrères* it brought on to his feet Professor Nocard, who spoke in his native language and whose speech was translated by Dr. Hime and supplemented as to one important remark by Mr. Woods of Wigan. So far as I could follow it Professor Nocard's speech was a flowery eulogy of his Colleague Hunting, which it is to be hoped in some measure compensated our friend for the apparent indifference of his own countrymen. In conclusion Mr. Hunting proposed a resolution for compensation to be paid for carcases of animals that showed no signs of disease during life. This resolution was passed and the Conference recommended the resolution to the notice of the Council of the Institute.

The Conference then passed a very cordial vote of thanks to its President who thereupon declared the Session closed.

On the proposition of Mr. Lepper, seconded by Prof. Pritchard, Mr. Hurndall was cordially thanked for representing the Association at the Manchester Congress and for his able report.

PLACE OF NEXT MEETING.

It was resolved, on the motion of Mr. East, seconded by Mr. Butters, that the next (February) meeting of the Asssociation be held as usual at Reading.

HÆMOGLOBINURIA.

J. F. SIMPSON, J.P., F.R.C.V.S., Maidenhead.

[An Address at the July meeting. Mr. SIMPSON explained the various reasons which had prevented the publication of his address in the professional journals, and, at the request of the meeting, very kindly summarised the leading features of his Maidenhead address.]

At the outset I desire to acknowledge that in the preparation of this short address I have imported into it the views of acknowledged authorities upon this disease, but in-as-much as the remarks of these writers will be so mingled with those derived from my own personal experience the impossibility of differentiating throughout as between borrowed ideas and those of my own will be appreciated. I therefore hope it may suffice if I say that the views of McFadyean, Penberthy, Williams, Dieckerhoff, and others are embodied in the paper.

All writers and the ordinary practitioner of the present time have for many years been in perfect agreement as to the conditions to which the equine must be submitted to bring about an attack of this disease; we are agreed also with regard to the morbid anatomical changes which have occurred in organs and structures in those animals which have been the subject of the disease, but as to the real pathology and its deep cause the opinions are many and varied; thus on the assumption that a large increase of urea is formed in the urine of affected animals it is referred to under the title "azoturia" and "nitrogenous urine". Again, under the belief that mares only are the subject of the disease the term "Hysteria" has been applied; again under the belief that true blood was mixed with the urine the terms "black disease," "black water" and "stranguary" have been used. One old author, whose reasons for so doing I am unable to gather, refers to the disease as "lumbago", while some of the very early writers refer to the subject of the disease as "kidney droppers", presumably under the belief that the disease was purely a nephritic one.

Before asking you to accept the name of "Hæmoglobinuria" as the correct one, we may proceed to dispose of those applied names which may be leniently termed inaccurate and misleading. As to "azoturia" and "nitrogenous urine" it has been proved beyond doubt that the percentage of urea in the normal urine is rarely exceeded in the urine of affected animals, the reason of the error will be referred to when considering the microscopic appearances of affected urine. "Hysteria" may at once be dismissed, as all practitioners will agree that

both males and females are the subjects of the disease. As it has been clearly demonstrated that the colour of the urine is not due to true blood being mixed with it the terms "stranguary," "black water," and "black disease" may be considered disposed of.

Lastly as no displacement of the kidneys and no traces of structural disease of those organs in the early stages of the disease are observed, it is obvious that the old term "kidney dropper" is not applicable.

We now come to the consideration of the claim which the word "hæmoglobinuria" has for our acceptance. It is simply this—that the characteristically high coloured urine is due to the presence of hæmoglobin. This singular disease is to my mind very accurately and very shortly described by Prof. Penberthy in his lecture upon equine medicine: "This is a disease of working horses following enforced rest, with high feeding, and it is usually manifested very soon after being put to work by muscular tremors, hardness of certain muscles, loss of motor power and the passage of coffee-coloured urine."

Let us deal with the conditions under which it is always necessary that a horse must be placed before it becomes a subject of the disease. I know of no class from the thoroughbred to the Shire horse which is exempt from an attack provided certain conditions are applied. Animals affected are almost invariably those who before the attack have been in hard work and well fed and are in consequence in that state popularly known as "good condition," circumstances arise which necessitate the suspension of work of the horse for a time—which is not at the moment defined—and in consequence the usual working diet is continued. It is a singular fact that the subjects of an attack are those who, as a rule, have only had from 24 hours to a week's rest with liberal feeding. Rarely indeed is the disease observed in animals who have been "thrown by" for a long period of rest, say from one to four months, and this doubtless is accounted for by the fact that when the term of rest has been definitely decided upon an altogether different system of dieting is observed. Provided an animal is not allowed to leave the stable for a day to about a week, even with high feeding, it very rarely happens that it becomes affected therein, although I can conceive that if the muscles of the loins and quarters, or even of the fore extremities are suddenly called into action by the horse jumping round his box or kicking, this would be sufficient to induce an attack. In by far the great majority of instances the attack is observed after the animal has left the stable only a short time. I have known an animal to become affected and fall before he has left the stable yard, while others have travelled miles before evidence of an attack is observed. These then are the conditions which I submit must be observed before an attack can be brought about.

Before proceeding to discuss the symptoms and the lesions which are observed post mortem it will be well to consider the pathology of this affection, and it is in this respect that I hope the main portion of the discussion will be directed. What is it, after subjecting an animal to the conditions I have referred to, which occasion the symptoms and changes that are observed in a case of "hæmoglobinuria"? There are many theories, each one in the absence of another calculated to convince; it is known that during the action of the voluntary muscles of the body an acid is generated, and it is suggested that during sudden and almost unexpected exercise of these muscles, after high feeding, this acid is manufactured to an abnormal degree causing painful spasm of the muscles, that it becomes absorbed and unites with the blood (which is moderately alkaline) and that its action on the red corpuscles is to break them up and liberate the hæmoglobin contained in them, which hæmoglobin is eventually secreted by the kidneys—hence the colour and high specific gravity of the urine in these cases; this theory appears a most reasonable one until we are confronted with another, which is that high feeding with enforced rest is productive of certain poisons in the intestinal tract and that the absorption of such poisons into the system produces spasms of the muscles; it is a theory accepted by some but not one which commends itself to me in-as-much as no attempt is made to account for symptoms observed beyond that of muscular spasm, unless it is claimed for this poison that it is of acid character and that its presence in the blood has the effect of liberating the hæmoglobin by its action upon the red cells.

Reasonable, as at first sight it may appear, that the extensive breaking up of the red corpuscles and consequent liberation of Hæmoglobin accounts for the characteristic dark urine, we are confronted with the demonstrated fact that even in a bad case of the disease there is no diminution in the normal number of the red corpuscles of the blood, neither is there any evidence of anæmia such as one would expect to find with wholesale destruction of cells. If we accept the theory—as I think we must—that the coloured urine is due to the presence of hæmoglobin, how are we to reconcile this with the ascertained facts that we have neither diminution in the number of red corpuscles, even in a bad case, and no anæmia? It is, I believe, accepted that the red corpuscles in normal horse blood number about 7 or 8 millions per cubic millimetre, that in the very early stages of hæmoglobinuria their number is enormously increased beyond the normal, even to 11 or 12 millions per cubic millimetre and that in a well established case the number returns to the normal. May we not therefore from these facts reasonably assume that primarily the cause of the disease is high feeding with rest after active work, that it is succeeded by enormous excess of cell formation, and that a sudden destruction of the *excess* takes place immediately the horse is taken to exercise. If it were generally agreed as to the seat of the primary lesion, that probably would help us to arrive with more confidence at the actual pathology of the affection; but unfortunately there is disagreement as to whether the lesions primarily occur within the blood or in the muscles. The theory known as the "hæmal" assumes that the lesions occur within the blood, and that the muscular symptoms and lesions are secondary, while the "muscular" theory suggests that the myosin of the muscle is destroyed by some hypothetical poison and that its colouring matter or pigment is absorbed into the blood and later secreted by kidneys; if this latter theory be the correct one it is clear that the muscle symptoms precede the passage of characteristic dark urine. Many practitioners hold the belief that sudden exposure to excessively low temperature is one cause of hæmoglobinuria, and although I am prepared to admit that a large percentage of cases are observed during visitations of severely cold weather, I am not inclined to accept the theory that cold *per se* contributes in any way to an attack; my belief is that the reason why so many cases are observed during very cold weather is that owing either to frost or snow, days of enforced rest are more frequently permitted to horses, owing to (in the case of cart horses) the owner being unable to find employment for the animals either on the land or on the roads, and in the case of hunters owing to the fact that not every owner of such animals possess a straw or tan ride, and in consequence these animals are detained in the stable sometimes for days together without any restriction as regards diet, the hope being always entertained that each day's frost will be the last. With these suggestions before us we may proceed to deal with symptoms. Unlike most affections accompanied with fever there are no premonitory symptoms, such as loss of appetite, tremors, or rise of temperature, or pulse before the exhibition of typical evidence that the animal is the subject of hæmoglobinuria.

Although I admit that under exceptional circum-

stances (such as I have indicated) an animal may become affected *within* the stable, the great majority walk from the stable in high spirits and are apparently in the best of health ; such animals may travel less than 100 yards and become suddenly and typically affected, especially if they have been led and have exercised the limbs violently by plunging or kicking ; on the other hand hunters have been known to travel several miles to a meet and become affected at the covert side, while there are many instances on record of horses having performed long but slow journeys and not becoming affected until they were unharnessed on their return to the stable yard. I think it may be taken as the rule that horses which exercise the muscles of limbs and loins freely either by plunging, kicking, or performing trotting or galloping work as soon as they come from the stable, are those which become the early subjects of the affection, while the horses used for slow walking work are those which perform journeys of varying lengths before giving evidence of the disease ; but whether the animal becomes affected within the stable, or before he has left the stable yard, or at the covert side, or after performing a long slow journey, the symptoms are identical under all these conditions. At whatever pace an animal may be going he will "slow down" if in a gallop to the canter, then to the trot, then to the walk, and eventually he stops, occasionally, however, the seizure is so sudden as to necessitate the speedy dismounting of the rider, with the view of preventing the horse falling under his weight. Upon examination the animal is observed to be excited as though frightened at the suddenness of the attack ; this is shown by staring eyes, quick breathing, distending nostrils, looking round to the hind quarters and occasionally kicking with one or both hind legs ; the hind quarters are observed to quiver, the animal will rest first one hind leg and then the other, and there is a disposition to lie down ; sweating is observed, more particularly in the region of the affected muscles ; this is soon succeeded by knuckling over of the hind fetlock joints, reeling from side to side, until eventually the animal falls, and at this stage an opportunity is given for a more minute examination. It is then found that the excitement has increased, the visible mucous membranes are highly injected, the pulse has risen in frequency and there is a slight rise in temperature, the muscles of the loins and quarters are found to be in a condition of spasm, being hard and unyielding to digital pressure On passing the catheter coffee coloured urine is obtained, its depth of colour depending upon the amount of hæmoglobin present. There are frequent but ineffectual efforts made to rise, succeeded by violent fighting action of both hind and fore legs which continues until the animal obtains relief or is too exhausted to continue the struggles ; this is succeeded by brain symptoms, occasionally pneumonia, and in the case of the intercostal muscles being affected, difficult breathing without pneumonia. I have assumed a typical case of hind quarter affection, but undoubtedly cases of hæmoglobinuria are observed in which the hind quarters apparently are not affected while the fore quarters are affected to an extent which may result in death. The practitioner who has not seen a case of fore quarter affection may be pardoned if he at first sight mistakes it for one of partial paralysis of the fore legs.

The treatment must to some extent be determined according to the severity of the symptoms. The duration of the disease varies according to the temperament of the subject to a great extent ; the highly nervous animal may only live for a day or two while the even tempered, slow working horse may lie for very many days, and eventually recover or die.

Assume then that the patient has been conveyed into a large, well bedded, loose box. The early administration of a purgative I maintain is absolutely necessary, the agent to be used is not of so much consequence although I give preference to aloes ; this may be followed by sulphate of magnesia and nitrate of potass given in the drinking water. If the animal will eat, the diet should be of the simplest character until all acute symptoms have disappeared ; bran mashes are all sufficient until the purgative has done its work, after which the mash may be supplemented with a little old meadow hay. If the patient is suffering great pain from the spasm the usual doses of chloral hydrate may be given, though in some cases the hypodermic injection of morphia may be indicated locally. Under the belief that the disease is due to the excessive amount of acid manufactured either in the voluntary muscles or within the intestinal tract and afterwards absorbed into the circulation, the administration of large and frequent doses of bicarbonite of soda has been suggested and used with good results. I have had no experience of its effects in the large doses prescribed (maximum 17 oz.) but it is a treatment which has at least scientific reasons to commend it to more extended trial. We have successful practitioners amongst us who advocate the frequent and continuous use of sedatives, while others equally successful with their cases advise the administration of bold and frequent doses of diffusible stimulants. Well, gentlemen, I may candidly confess that I am no advocate for the frequent and continuous use of either (except the sedative under the condition I have indicated). I prefer to rely mainly on the aloes as a purgative, the simple sulphate of magnesia as a laxative and febrifuge, and the nitrate of potass as a gentle diuretic. With regard to local treatment I advocate the use of rugs steeped in hot water and afterwards thoroughly wrung out and applied to the affected muscles, covering over of course with dry rugs ; this should be repeated as often as it is required. I am conscience that there are some who will differ from me, but I adopt this local treatment for the reason that I recognise the condition of the muscle to be that of spasm, and I know of no local agent more likely to relieve spasm than warm compresses ; the application of a sedative liniment in the shape of equal quantities of lin. saponis, co. and lin. belladonna I have found very beneficial. The frequent use of the catheter and the administration of soap and water enemas when the use of the latter is indicated all will agree with. I am not in favour of slinging in the acute stages, though later, when the inability to stand unsupported is due solely to the atrophied conditions of the muscles and debility, then I recognise the value of such aid. Into the complications which often arise in such cases such as bed sores, bruisings, pneumonia, and even fractures I need not enter ; should one or other unfortunately present itself the usual course of procedure is called for.

The results of an attack are frequently disappointing to the practitioner and trying to his patience. In mild cases, so far as we are able to determine, complete recovery may be brought about, but in the more severe cases where a very large area of muscular tissue is involved a certain amount of atrophy is certain to be a sequel ; this condition has often necessitated the use of slings for many weeks, and even after such care the patient may be utterly useless as a working animal, while an examination of the affected muscles after death will demonstrate how justifiable was the "sentence of death" passed by the veterinary surgeon. Comparing affected with healthy muscle, the former is found to be pale, soft and flabby, and its appearance has been likened to that of fish muscle ; the lesions which have occurred in the fibres of the muscle are clearly shown in the specimen under the microscope before you. It will be observed that the muscle fibre is almost completely broken up and there is almost total absence of that transverse striation peculiar to voluntary muscle.

To overcome the loss of power in consequence of atrophy the use of slings is called for ; gentle but frequent exercise, hand rubbing of the parts, and the appli-

cation of a mild stimulating liniment twice daily should be persevered with. A good diet should be allowed, and with it may be given either nux vomica or liq. strychnæ, but if the horse declines to take the drugs with the food it should be given as a ball.

I think, gentlemen, I have now dealt with most of the important points in connection with this singular disease. You have before you a characteristic specimen of urine from a recent subject of the disease, and there are on the table at the back microscopes with specimens of normal muscle, affected muscle, and of the urine from a recently affected animal, all of which I trust will prove of interest to you.

LOSSES AMONG HORSES IN SOUTH AFRICA.

To the Editor of *The Field*.

Sir,—The letter under this heading, which appeared in last week's *Field*, is calculated to convey, to those of your readers without any experience of the matter, so incorrect an impression, that I venture to ask you to be good enough to give me space for a few words in reply. I trust, however, that the "unfortunate Army Veterinary Department" will not leave the defence of its conduct, which is so adversely commented upon, to these few sentences.

"British Officer" asserts that "an immense waste of horseflesh might have been averted if the A.V.D. had circulated the knowledge of the known poisonous grasses affecting horses in South Africa." The writer of this letter went out early in 1900 as Veterinary Officer to the 1st Battalion I.Y., and before starting received a pamphlet issued, I believe, by the A.V.D., in which all possible information respecting the management of horses was given with particular instructions as to the prevention of horse sickness and "tulp" (tulip) poisoning. A copy of this pamphlet was also issued to each squadron leader. I believe that, before we proceeded up country, every man in the battalion was made aware of the danger of both of these evils, and of the best methods of avoiding them. What the poisonous grasses are I do not know, perhaps "British Officer" will inform us.

I have seen several guide-books to South Africa, and in every one reference is made to the common danger to horses from tulip poisoning. During 1900 every officer with whom I was associated in General Rundle's (Starvation) 8th Division seemed to be well acquainted with the dangerous tulip, and would always avoid grazing or camping where any evidences of it were to be found. I recollect when near Ficksburg (O.R.C.) some horses of the 79th Battery, Royal Field Artillery, were poisoned because the ground was not carefully examined during a short halt before the horses were allowed to graze; but the prompt measures taken by Major McRae and his officers prevented any fatal results, although no veterinary assistance was available for two days afterwards.

Having no knowledge of the majority of 1902 yeomanry officers, I cannot decry the affirmation as to their ignorance, but it is hardly fair to charge the A.V.D. with the responsibility for the "immense waste of horseflesh," the cause of which any man with sufficient interest in his work and and ordinary powers of observation could learn enough about from so many other sources, even if one of the 1900 pamphlets failed to reach and instruct them.

THOS. A. HUBAND, F.R.C.V.S.,
Hon. Vet.-Lieut. 1st I.Y.

Cheltenham.

THE REMOUNT ENQUIRY.

To the Editor of *The Daily Chronicle*.

Sir,—From the report of the recent inquiry and evidence of the various witnesses, it appears there is something wanting both in the organisation and working of the Remount Department, and it is the opinion of many competent judges that the department should be largely augmented and represented by the addition of Army veterinary surgeons—in fact, that the two departments should be one.

Two great considerations are that Army horses should be the best for their respective purposes, and the public money properly spent, and these results can only be attained by the employment of experienced veterinary surgeons, who should have combatant rank and better pay. Such inducements would bring plenty of well-educated men into the service capable of filling the various posts, which ought only to be given to professionals trained for the work. It is said that Mr. Brodrick has at last consented to look into the matter of the disabilities from which the A.V.D. suffers. It is high time; for until its legitimate claims are recognised no educated or self respecting young fellows will join a service that has no better appreciation of the profession than to place its members on a level with the non-commissioned officer. In consequence of such short-sighted meanness the A.V.D. has practically been "boycotted" for some time past. The formation of remount depots, the transport of animals by sea and land, obtaining intelligence as to the best localities to purchase, the buying and breeding of horses, the inspection of their food and stabling, and all the many details connected with their welfare, should surely be in the hands of experts. During the late war far too much responsibility was given to lay officers, many of whom were incompetent, assuming a knowledge that often led to disastrous consequences, as in the case of the steamship Cervona, when the conducting officer ordered the destruction of 250 horses for supposed glanders, in spite of the remonstrances of the veterinary surgeon.

No *one* man should have the medical charge of 800 or 1000 horses on board ship, to say nothing of the hard work it entails. A senior and junior veterinary surgeon would be none too many; but they could easily dispense with the services of a conducting officer, who in some cases may prove to be worse than useless. The Government would never think of giving the health of 1,000 men into the charge of one medical officer, and the conditions under which human beings are confined at sea are not to be compared with those of animals. The writer had the honour of serving the War Office in different capacities, and saw the absurdity of making professional men subordinate to laymen—young Militia, ex Cavalry, Artillery, and even Naval officers, who although they might be very proficient in their line, had no claim to dictate to the veterinary surgeon.

No doubt the Remount Department was sorely tried by the excessive strain put upon it, but that was in large measure due to its unreadiness to cope with the stress, and had it had at its disposal a more numerous staff of veterinary surgeons on the active and reserved lists many thousands of pounds and horses, with, perhaps, many human lives might have been saved.

These considerations, together with the fact that the education of the present day veterinary surgeon is very costly and required to be on a par with that of the human surgeon, must be apology for the suggestion of the union of the two branches of the service. I enclose my card.—Yours obediently,

C.V.S.

November 25.

COUNTY DUBLIN COUNTY COUNCIL.

The Royal Veterinary College.

An adjourned quarterly meeting of the County Dublin County Council was held on Thursday, December 4th at 11 Rutland Square. Mr. P. J. O'Neill, J.P., presided.

A letter was received from Professor Mettam in reference to the removal of a horse, supposed to have been suffering from glanders, from the city to the Veterinary College at Pembroke. Professor Mettam said he knew nothing of the horse or owner until the animal came into the College quadrangle. He purchased the animal for the purpose of clinic, and it was put immediately into the isolation house of the College. He was not satisfied that the case was one of glanders, though suspicious, until after the animal had been subjected to the mallein test, and in this particular case the test was not as satisfactory as usual. He hoped he should not be considered discourteous if he said that he thought the County Council were to be congratulated on this case being discovered, and a possible source of contagion removed.

Mr. Richardson wrote stating that the cost of destroying the horse was one guinea, which was chargeable to the County Council, being the local authority. This charge against the County Council would not have arisen had the horse not been illegally removed from the city.

The Chairman said it appeared to him that the authorities at the Veterinary College had not met Mr. Richardson, the officer of the Council, in the spirit in which they might have done in this case. The veterinary authorities at the College were as responsible as any other body, but they had no right to complain of the officer in seeking to safeguard the district from the spread of the disease.

After some further discussion, the matter dropped.

The Council and the Royal Dublin Society.

A letter was received from the Royal Dublin Society in reference to a claim made by the Inspector of the County Council, who are the responsible authority for carrying out the provisions of the Diseases of Animals Act in their district, to visit the Society's shows. During the Horse Show the Inspector claimed admission without payment, and was refused. Mr. Shannon wrote to the Secretary of the Society on the subject, and the letter now received was to the effect that the Inspector was not entitled to enter the Society's shows unless he had reasonable grounds for supposing that there was disease amongst the animals, and that he should be prepared to give those reasons before he could be admitted on the terms claimed. The utmost precautions, the letter stated, were always taken by the society for the exclusion of diseased animals from their shows, and it was submitted that any inspection by the officer of the Council should be made before the animals entered the show.

Mr. Shannon said this was a matter in which they could not delegate their authority or get rid of the responsibility imposed on them by the Act.

Mr. Mooney said that wherever there was a large quantity of stock there was always a possibility that there might be disease amongst them.

Mr. Molloy agreed that the Council could not abandon their rights, but they should approach the Dublin Society on the subject in a proper spirit.

The Chairman said that if the precautions taken by the society were so elaborate, there could be very little objection to the Inspector of the Council visiting their shows.

The letter was referred to Mr. Shannon to see that the officer of the Council was not impeded in the matter.

The Council soon after adjourned.—*The Irish Times.*

DUTY OF R.S.P.C.A. INSPECTORS.

A question came before Mr. Justice Walton in the King's Bench Division on the right of an Inspector of the Society for Prevention of Cruelty to Animals to give an offender into custody. The form of the case was an action for damages against the Society for the Prevention of Cruelty to Animals brought by a person who alleged that he had been given in charge falsely by an inspector of the Society.

Mr. Justice Walton, in giving judgment, said it seemed plain to him that an inspector of the Society had no right to give offenders into custody. The inspector could complain to a constable, and the constable, under section 13 of the Cruelty to Animals Act, 1869, could arrest the offender. It was a different thing giving a man into custody and making a complaint to a constable. His lordship quoted from a book published by the Society containing a code of suggestions which were intended to be acted on by the inspectors of the Society. The first suggestion was that in flagrant cases the best course to adopt was to give the offender into the custody of a policeman. His lordship pointed out that the Society was in error in making that suggestion, as the Act only provided that upon a complaint being made a constable might arrest an offender. The suggestions in the book, however, showed that the inspector was acting within the scope of his authority as defined by the Society's rules, and therefore the Society was liable for his act.

The finding of the Court was that the inspector acted within the scope of his authority, erroneously given to him by the society, and judgment was entered against the Society for £15.—*The Scottish Farmer.*

PARLIAMENTARY.

The Studdert Remount Case.

In the House of Commons on Dec. 8th,

Sir C. Dilke asked the Secretary of State for War whether he could explain the course pursued in the prosecution of Major Studdert and his sons; and what steps he proposed to take on account of the refusal of the grand jury at the Munster Assizes to find a true bill, for reasons concerning the evidence of Col. St. Quintin given by the grand jury in writing.

Mr. Brodrick: I do not propose to take any further steps in this matter. The other points will be taken up by my right hon. friend in reply to the next question.

Sir C. Dilke: Do I understand that the Government, thinking this man to be guilty, will take no further steps of any kind?

Mr. Brodrick: I think the reply of my right hon. friend will deal with that question.

Mr. Tully (Leitrim, S.) asked the Secretary of State for War whether he could explain why Col. St. Quintin was not produced by the Crown before the grand jury at the Munster Winter Assizes in the Studdert remount case; and whether it was proposed to grant any compensation to the defendants for being subjected to proceedings.

The Attorney-General for Ireland (Mr. Atkinson).—As I had charge of this prosecution, my right hon. friend has asked me to reply to this question. It is almost impossible in reply to a question to state with such fulness as to be intelligible the several considerations which, in accordance with well-established principles of law and unbroken precedent, and the express provisions of two Irish statutes now in force, required that the Crown should not send Colonel St. Quintin before the grand jury as a witness in the Studdert case. So far, however, as they can be condensed into an answer, I

may state they were as follows:—Colonel St. Quintin was a most important, if not the most important, witness for the defence. He had been examined on behalf of the accused at the preliminary magisterial investigations. His evidence, and his evidence alone, was directed to establish an excuse or kind of plea in confession and avoidance for the accused, to the effect that though the contract under which the accused was employed as purchasing agent was contained in written documents, a secret non contemporaneous arrangement or understanding had been come to between him and Colonel St. Quintin, never disclosed to the common principals, whereby Major Studdert was authorised to purchase horses from his sons under assumed names, and to falsely represent to his principals that these counterfeited persons were independent *bona fide* dealers. To have satisfied the desire of the grand jury (which apparently was not to confine themselves to their proper functions, but, to use their own words, to thoroughly investigate the case) and send one of the principal witnesses for the defence before them would, in effect, have been to have consented to transfer the hearing of the issue in the cause from the public Court to the grand jury room, and to have enabled the grand jury to decide it upon the merits, in secret, behind the backs of the parties, without affording to the Crown any opportunity of cross-examining Colonel St. Quintin, or of pointing out the manifold contradictions, inaccuracies, and other defects in his evidence which, according to their contention, rendered it unreliable, or of insisting on its insufficiency in law or fact to sustain the defence sought to be based upon it. Such a course would have been contrary to law, have been inconsistent with every principle of justtice, and been of most mischievous example. I shall be only too pleased, should the occasion offer, to call attention in this House to the nature of Colonel St Quintin's testimony, and to justify the action of the Crown in reference to him in every particular. The answer to the second paragraph is in the negative.

Sir C. DILKE wished to know whether a prosecution for conspiracy would lie against the Studderts and Col. St. Quintin.

The ATTORNEY-GENERAL for IRELAND said that particular point had not been specifically considered, but he thought it right to say that as far as the evidence had been laid before him—and he was thoroughly acquainted with it—he saw no reason to suppose that Colonel St. Quintin's action was criminal. He rather thought that he was befooled and practised upon.

Mr. E. ROBERTSON: Has he incurred any civil liability?

Mr. BRODRICK: I decline to give any answer to that.

Mr. T. GIBSON-BOWLES: Are all proceedings in this case to be abandoned?

The ATTORNEY-GENERAL: There is no precedent, either in modern or ancient times, for going on with proceedings after a bill has been withdrawn.—*The Times.*

Personal.

Mr. C. R. NEALE SHIPWRECKED.—Mr. Neale, late of Henley, was one of the eight survivors of the wrecked steamer, "Elingamite," picked up by H.M.S. "Penguin," from a raft, after drifting about four and a half days. Mr. Neale who had been on a visit home after serving in the South African War was returning to New Zealand on the Elingamite, which was wrecked before reaching her destination.—*The Henley Standard.*

Municipal Election at St. Helens.

The declaration of the poll at St. Helens' took place outside the Town Hall on Saturday night, November 1st, under the direction of the Town Clerk and his staff.

HARDSHAW WARD.

Dixon, W. G. (C), M.R.C.V.S., 528; Grundy, P. (L) 509; Welch, H. S. (Co-op.) 287.

There was a scene of great animation at the Conservative Club which was crowded, and there was speech-making in several rooms.

Councillor Captain Dixon arrived shortly afterwards, and also underwent the chairing process, and being put on the table. He was very pleased to find himself at the head of the poll. His supporters had worked very hard for him. He had found that Councillor Grundy was very well thought of in the ward and in the Council, and the fact that he had beaten him was a great credit to his workers. He thanked Mr. Lloyd for the excellent services he had rendered. (Applause.)

Later in the evening, Alderman Massey delivered a speech to the assembled Conservatives, in the course of which he said:—"In Hardshaw Ward they had had a great success. (Applause.) At the outset he was diffident as to the result, and now he was glad to congratulate Captain Dixon, who had been returned to the Council. (Applause). He thought that Captain Dixon would be a valuable addition to the St. Helens Town Council, and that he had won on his merits. He, for one, would be pleased to see him on the Council, and although there were members of the club who for reasons of their own did not support Captain Dixon, yet he was sure that they were all satisfied that he had got in. (Applause)."

The St. Helens Reporter of October 31st, says:—"In Hardshaw Ward, Captain Dixon, Councillor Grundy, and Mr. Welch are having a three cornered fight; but the fight is practically one between a Conservative and a Liberal, and the Conservatives of the Ward should undoubtedly do their best to secure the election of Captain Dixon. He has shown his interest in public matters by a very long connection with the Yeomanry and by going to South Africa as a Volunteer; and it cannot be doubted that, if he is sent to the Council, he will also render valuable service there.

Warwickshire County Council.

There was no contest for the seat at Aston on the Warwickshire County Council, which was made vacant by the resignation of Mr. William Ansell. Yesterday Mr. Jacob Jacobs, Liberal, and Mr. William Henry Pickering, Liberal Unionist, were nominated, and up to this morning the appearances favoured a fight. and posters made their appearance in the district requesting votes for Mr. Jacobs. At two o'clock, however, this gentleman handed in his withdrawal. Thus the Liberal Unionist candidate is returned unopposed, and the representation politically, is unchanged. Mr. Pickering, the new councillor, is a veterinary surgeon, residing in Sutton Street, and he has lived in the district for several years.—*Birmingham Daily Post*, Dec. 6th.

CROWHURST.—On the 26th Nov., at the Paddock, Canterbury, the wife of William Henry Crowhurst, F.R.C.V.S., of a daughter.

BELL—At Honley House, Catford, on the 6th inst a son to Mr. and Mrs. John Bell.

GOLLEDGE.—On the 3rd Dec., at Kingston House, Sherborne, Dorset, the wife of C. Hedworth Golledge, M.R.C.V.S., of a daughter.

NOTES ON BOOKS.

ORGANISMAL DISEASES.

The third edition of this well known work has just appeared. It has been completely revised and only a comparatively small portion of the original text remains. It has been considerably enlarged, owing entirely to the constant extension of the field of microbic pathology. Many fresh subjects have been introduced, amongst them are—Pasteurellosis of the horse, Typhus of the dog, Pasteurellosis of the goat, Horse sickness, Bird plague, Pseudo tuberculosis, Actinobacillosis, and in particular Hematozoic diseases—Piroplasmosis and Trypanosoma diseases.

The character and arrangement of the work have not been altered. It is still a complete synthetic study of animal infections—their clinical appearances, etiology, experimental study and prophlaxis. Hundreds of works have been devoted in recent years to microbic diseases and important progress has been made; of these a full *résumé* will be found in this work. Indispensible to the veterinary surgeon, this book will also be of great value to the medical man who wishes to study the many microbic diseases common to man and animals. We hope shortly to review the work.

LES MALADIES MICROBIENNES DES ANIMAUX, par Ed. NOCARD, professeur à l'Ecole Vétérinaire d'Alfort; membre de l'Académie de Médecine, et E. LECLAINCHE, professeur à l'Ecole Vé érinaire de Toulouse. Ouvrage couronné par l'Académie des Sciences (Prix Monthyon, 1898). Troisième Edition. 2 volumes grand in-8o, de 1315 pages. (Masson et Cie, 120 Boulevard St. Germain, Paris, 22 fr.)

OBITUARY

FREDERICK ROBERT STEVENS, M.R.C.V.S., Redhill, Graduated, Lond: 1878.

Mr. F. R. Stevens, met with a shocking death on Sunday, which was the subject of an enquiry held on Monday, 8th inst., at Reigate. Deceased on Sunday morning was returning on horse-back from a professional visit, when his horse shied in Brighton Road, Redhill, at an approaching motor car. The driver of the car pulled up immediately, but the horse reared, and Mr. Stevens was thrown to the ground. the animal in plunging kicked him several times in the face and on the head, completely smashing in the skull. In an unconscious condition he was taken into a house by several persons, assisted by the driver of the car, who then rushed to his machine, and, refusing to give his name and address, drove in the direction of Brighton. Death ensued at the Cottage Hospital in a few hours. Chief Constable Metcalfe stated that he had made every possible inquiry to find the motorist, but had failed. The jury returned a verdict of accidental death, and added a rider to the effect that motor cars should be numbered. They asked the coroner to report the circumstances of the case to the Automobile Club, and thanked Mr. Maxted, a motor-cyclist, for the assistance he rendered Dr. Palmer at the time of the accident. Mr. Stevens was 44 years of age and a good horseman.

Remounts and scandals appear to have a very close affinity. Recently, we hear on credible authority, a number of shiploads of horses have been brought from South Africa and landed in this country. Despite the coldness of the weather, and the fact that the animals had been brought from a warmer climate and had spent about three weeks on shipboard, an experience which notoriously predisposes them to take colds, they were turned ont on arrival. It is, therefore, not surprising to be informed that at one station where a remount depot was formed no fewer than thirty valuable horses died. The fresh arrivals are now being put under cover as they are unshipped.—*Pall Mall Gazette.*

CORRESPONDENCE.

ACTION AGAINST A M.R.C.V.S. ("Roaring")

Sir,

I have read the report of this case in *The Veterinary Record* with feelings of sympathy for Mr. Mayall, and say, hear, hear! to the jury's regret at the action ever being brought.

I am bold enough to hazard the opinion that every veterinary surgeon who does much examining had need be lenient to a brother practitioner's mistakes, or supposed mistakes, and I think your readers will agree that only in those cases where there is overwhelming evidence of carelessness or wrongdoing on the part of the veterinary surgeon, should a plaintiff be supported. But, sir, what is the case here? A horse is passed sound in wind and *in three weeks* is a roarer, which is admitted. Is there any veterinary surgeon who will stand before his colleagues and say that with no negligence or wrongdoing proved the examiner is liable, either morally or legally—for that is really the question at issue. I hope when this worry is encountered, as it must surely be, by myself or my brother veterinary surgeons, that we may at least get a little sympathy, which at these times must be appreciated.

The report says Mr. Pollock and Mr. Shipley suggested how long the horse had been affected, Mr. Pollock saying it was of *long standing*—mark, sir, the *long standing*. Will Mr. Pollock or any other veterinary surgeon adduce any serious reasons for an opinion of this sort being formed? I am sorry to trespass on your space, but think such a case wants specially viewing by our profession, which lately has been receiving some nasty knocks. Perhaps I had better mention that I do not know any of the parties, either personally or by repute, but if I was in Mr. Mayall's place I should in future give these neighbouring and *neighbourly* (?) friends a wide berth. I hope to see some more able pen than mine reviewing this case, if the only result obtained is to show Mr. Mayall that he has the sympathy of the overwhelming majority of his brother practitioners.—I am, etc.

Clitheroe, 8th Dec., 1902. J. KERR CALDERWOOD,

ROARING IN CATTLE DUE TO GROWTHS IN THE THROAT.

Sir,

Regarding the method described by R. W. Knowles, Esq., M.R.C.V.S., of Wisbech, in *The Veterinary Record* of December 6th, of removing such post pharyngeal growths with a wire, may I be permitted to point out that one applied in the manner of Defay's wire extractor "used in canine practice," and described in "Fleming's Veterinary Obstetrics," page 507, will usually answer the purpose. The torsion rod "one only being required" has to be somewhat longer than that used for obstetric purposes, and the wire pliable. I have found piano wire, or that supplied with Lord Kelvin's sounding machine used on board ships, the most suitable, being very strong and flexible. I have several times operated in this manner when an ecraseur would be inadmissible, with good results, and little or no hæmorrhage. Defay's torsion rod can be made by any intelligent blacksmith at a small cost.

JOSHUA A. NUNN, F.R.C.V.S.

Dec. 10th, 1902.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Messrs. W. Robb, W. Pauer, Harold Leeney, G. W. Foote, H. C. Wilkie, R. W. Knowles, A. Whicher, J. A. Gilruth, E. W. Hoare. Professor James Law, Col. J. C. Berne. C.V.S. *Journal of Comp. Med. and Vety. Archives* (Philadelphia, Sept.), *Les Maladies Microbiennes des Animaux*. Ed. Nocard and Leclainche: *Archives de Stomatologie* (Paris, Noor). *Report 1901-2 Division of Vety. Science*, Dept. of Agriculture. New Zealand: *The Daily Chronicle*, *The Evening Echo* (Cork). Dec. 6.

Messrs. J. K. Calderwood, J. P. Isherwood, P. J. Simpson, J. Bell, W. H. Pickering, S. Locke, G. Elmes, J. Bee. Col. J. A. Nunn. *The Dundee Advertiser*. Dec. 13.